

SEQUENCE LISTING

<110> Ban, Kazuhiro  
Shiotsuka, Hidenori  
Imamura, Takeshi

<120> Kit for immobilizing organic substance, organic substance-immobilized structure, and manufacturing methods therefor

<130> 03500.102556

<140> PCT/JP2005/001316  
<141> 2005-01-25

<150> JP2004-016858  
<151> 2004-01-26

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Gly Ser Ala His Ser Arg Asn Asp Ala Ala Pro Val  
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Thr Ala His Met Thr Met Pro Ser Arg Phe Leu Pro  
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Ala Ser Ala Arg Met Val Leu Arg Gln Ala Ile Lys Gln Pro Val His  
 35 40 45

Ser Val Lys His Val Ala His Phe Gly Leu Glu Leu Lys Asn Val Leu  
 50 55 60

Leu Gly Lys Ser Gly Leu Gln Pro Thr Ser Asp Asp Arg Arg Phe Ala  
 65 70 75 80

Asp Pro Ala Trp Ser Gln Asn Pro Leu Tyr Lys Arg Tyr Leu Gln Thr  
 85 90 95

Tyr Leu Ala Trp Arg Lys Glu Leu His Asp Trp Ile Asp Glu Ser Asn  
 100 105 110

Leu Ala Pro Lys Asp Val Ala Arg Gly His Phe Val Ile Asn Leu Met  
 115 120 125

Thr Glu Ala Met Ala Pro Thr Asn Thr Ala Ala Asn Pro Ala Ala Val  
 130 135 140

Lys Arg Phe Phe Glu Thr Gly Gly Lys Ser Leu Leu Asp Gly Leu Ser  
145 150 155 160

His Leu Ala Lys Asp Leu Val His Asn Gly Gly Met Pro Ser Gln Val  
165 170 175

Asn Met Gly Ala Phe Glu Val Gly Lys Ser Leu Gly Val Thr Glu Gly  
180 185 190

Ala Val Val Phe Arg Asn Asp Val Leu Glu Leu Ile Gln Tyr Lys Pro  
195 200 205

Thr Thr Glu Gln Val Tyr Glu Arg Pro Leu Leu Val Val Pro Pro Gln  
210 215 220

Ile Asn Lys Phe Tyr Val Phe Asp Leu Ser Pro Asp Lys Ser Leu Ala  
225 230 235 240

Arg Phe Cys Leu Arg Asn Asn Val Gln Thr Phe Ile Val Ser Trp Arg  
245 250 255

Asn Pro Thr Lys Glu Gln Arg Glu Trp Gly Leu Ser Thr Tyr Ile Glu  
260 265 270

Ala Leu Lys Glu Ala Val Asp Val Val Thr Ala Ile Thr Gly Ser Lys  
275 280 285

Asp Val Asn Met Leu Gly Ala Cys Ser Gly Gly Ile Thr Cys Thr Ala  
290 295 300

Leu Leu Gly His Tyr Ala Ala Ile Gly Glu Asn Lys Val Asn Ala Leu  
305 310 315 320

Thr Leu Leu Val Ser Val Leu Asp Thr Thr Leu Asp Ser Asp Val Ala  
325 330 335

Leu Phe Val Asn Glu Gln Thr Leu Glu Ala Ala Lys Arg His Ser Tyr  
340 345 350

Gln Ala Gly Val Leu Glu Gly Arg Asp Met Ala Lys Val Phe Ala Trp  
355 360 365

Met Arg Pro Asn Asp Leu Ile Trp Asn Tyr Trp Val Asn Asn Tyr Leu  
370 375 380

Leu Gly Asn Glu Pro Pro Val Phe Asp Ile Leu Phe Trp Asn Asn Asp  
385 390 395 400

Thr Thr Arg Leu Pro Ala Ala Phe His Gly Asp Leu Ile Glu Leu Phe  
405 410 415

Lys Asn Asn Pro Leu Ile Arg Pro Asn Ala Leu Glu Val Cys Gly Thr  
420 425 430

Pro Ile Asp Leu Lys Gln Val Thr Ala Asp Ile Phe Ser Leu Ala Gly  
435 440 445

Thr Asn Asp His Ile Thr Pro Trp Lys Ser Cys Tyr Lys Ser Ala Gln  
450 455 460

Leu Phe Gly Gly Asn Val Glu Phe Val Leu Ser Ser Ser Gly His Ile  
465 470 475 480

Gln Ser Ile Leu Asn Pro Pro Gly Asn Pro Lys Ser Arg Tyr Met Thr  
485 490 495

Ser Thr Glu Val Ala Glu Asn Ala Asp Glu Trp Gln Ala Asn Ala Thr  
500 505 510

Lys His Thr Asp Ser Trp Trp Leu His Trp Gln Ala Trp Gln Ala Gln  
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Arg Ser Gly Glu Leu Lys Lys Ser Pro Thr Lys Leu Gly Ser Lys Ala  
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Tyr Pro Ala Gly Glu Ala Ala Pro Gly Thr Tyr Val His Glu Arg  
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Ser Thr Leu Arg Ser Val Ala Ala His Gly Leu Arg His Pro Val His  
35 40 45

Thr Ala Arg His Ala Leu Lys Leu Gly Gly Gln Leu Gly Arg Val Leu  
50 55 60

Leu Gly Asp Thr Leu His Pro Thr Asn Pro Gln Asp Arg Arg Phe Asp  
65 70 75 80

Asp Pro Ala Trp Ser Leu Asn Pro Phe Tyr Arg Arg Ser Leu Gln Ala  
85 90 95

Tyr Leu Ser Trp Gln Lys Gln Val Lys Ser Trp Ile Asp Glu Ser Asn  
100 105 110

Met Ser Pro Asp Asp Arg Ala Arg Ala His Phe Ala Phe Ala Leu Leu  
115 120 125

Asn Asp Ala Val Ser Pro Ser Asn Ser Leu Leu Asn Pro Leu Ala Ile  
130 135 140

Lys Glu Ile Phe Asn Ser Gly Asn Ser Leu Val Arg Gly Ile Gly  
145 150 155 160

His Leu Val Asp Asp Leu Leu His Asn Asp Gly Leu Pro Arg Gln Val  
165 170 175

Thr Arg His Ala Phe Glu Val Gly Lys Thr Val Ala Thr Thr Thr Gly  
180 185 190

Ala Val Val Phe Arg Asn Glu Leu Leu Glu Leu Ile Gln Tyr Lys Pro  
195 200 205

Met Ser Glu Lys Gln Tyr Ser Lys Pro Leu Leu Val Val Pro Pro Gln  
210 215 220

Ile Asn Lys Tyr Tyr Ile Phe Asp Leu Ser Pro His Asn Ser Phe Val  
225 230 235 240

Gln Phe Ala Leu Lys Asn Gly Leu Gln Thr Phe Val Ile Ser Trp Arg  
245 250 255

Asn Pro Asp Val Arg His Arg Glu Trp Gly Leu Ser Thr Tyr Val Glu  
260 265 270

Ala Val Glu Glu Ala Met Asn Val Cys Arg Ala Ile Thr Gly Ala Arg  
275 280 285

Glu Val Asn Leu Met Gly Ala Cys Ala Gly Gly Leu Thr Ile Ala Ala  
290 295 300

Leu Gln Gly His Leu Gln Ala Lys Arg Gln Leu Arg Arg Val Ser Ser  
305 310 315 320

Ala Thr Tyr Leu Val Ser Leu Leu Asp Ser Gln Leu Asp Ser Pro Ala  
325 330 335

Thr Leu Phe Ala Asp Glu Gln Thr Leu Glu Ala Ala Lys Arg Arg Ser  
340 345 350

Tyr Gln Lys Gly Val Leu Glu Gly Arg Asp Met Ala Lys Val Phe Ala  
355 360 365

Trp Met Arg Pro Asn Asp Leu Ile Trp Ser Tyr Phe Val Asn Asn Tyr  
370 375 380

Leu Met Gly Lys Glu Pro Pro Ala Phe Asp Ile Leu Tyr Trp Asn Asn  
385 390 395 400

Asp Asn Thr Arg Leu Pro Ala Ala Leu His Gly Asp Leu Leu Asp Phe  
405 410 415

Phe Lys His Asn Pro Leu Ser His Pro Gly Gly Leu Glu Val Cys Gly  
420 425 430

Thr Pro Ile Asp Leu Gln Lys Val Thr Val Asp Ser Phe Ser Val Ala  
435 440 445

Gly Ile Asn Asp His Ile Thr Pro Trp Asp Ala Val Tyr Arg Ser Thr  
450 455 460

Leu Leu Leu Gly Gly Glu Arg Arg Phe Val Leu Ala Asn Ser Gly His  
465 470 475 480

Val Gln Ser Ile Leu Asn Pro Pro Asn Asn Pro Lys Ala Asn Tyr Leu  
485 490 495

Glu Gly Ala Lys Leu Ser Ser Asp Pro Arg Ala Trp Tyr Tyr Asp Ala  
500 505 510

Lys Pro Val Asp Gly Ser Trp Trp Thr Gln Trp Leu Gly Trp Ile Gln  
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cgagcaagct tgctcttaca ggtgaaggc 29

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<212> DNA

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<223> Primer for PCR multiplication

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<210> 45

<211> 45

<212> DNA

<213> Artificial Sequence

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<223> Primer for PCR multiplication

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<210> 46

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<212> DNA

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<223> Primer for PCR multiplication

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<212> DNA

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58

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<210> 49  
<211> 58  
<212> DNA  
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<223> Coding chain for peptide of SEQ ID:2

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<210> 52  
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<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:3

<400> 52  
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<210> 53  
<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:4

<400> 53  
gatcccagta tacgtcgatc ggtattatta cgtcgatcg tggtgagggt tcggagct

<210> 54  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:4

<400> 54  
ccgaacctcc accagcagac gacgtaataa tacccgacga cgtatactgg 50

<210> 55  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:5

<400> 55  
gatcccagcc gcatatgcat cggagtttc atcaggatgg gggtgaggt tcggagct 58

<210> 56  
<211> 50  
<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:5

<400> 56  
ccgaacctcc acccccatcc tcatgagaac tccgatgcat atgcggctgg 50

<210> 57  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:6

<400> 57  
gatccaatac tactatgggg ccgatgagtc ctcatagtca gggtgaggt tcggagct 58

<210> 58  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:6

<400> 58  
ccgaacctcc accctgacta tgaggactca tcggcccat agtagtattg 50

<210> 59  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:7

<400> 59  
gatcccatca tcatccggag aattggatt ctactttca gggtgagggt tcggagct 58

<210> 60  
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<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:7

<400> 60  
ccgaacctcc accctgaaaa gtagaatcca aattctccgg atgatgatgg 50

<210> 61  
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<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:8

<400> 61  
gatccgctgc tcatttttag cctcagacta tgcctatgtat tggtggagggt tcggagct 58

<210> 62  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:8

<400> 62  
ccgaacctcc accaaatcata ggcatacgatct gaggctcaaa atgagcagcg 50

<210> 63  
<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:9

<400> 63  
gatccgatca tcagcttcat cgtcctccgc atatgtatgtatgggtggagggt tcggagct 58

<210> 64  
<211> 50  
<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:9

<400> 64  
ccgaacctcc acccctcatc atatgcggag gacgtatgtatgtatcg 50

<210> 65  
<211> 58  
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<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:10

<400> 65  
gatccgttgcgcgtcatcagtcgtggcatccgcatgatcttggtgagggttcggagct 58

<210> 66  
<211> 50  
<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:10

<400> 66  
ccgaacctccaccacccatca tgcggatgcc acgactgatg acgcgaaacg 50

<210> 67  
<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:11

<400> 67  
gatccatgtgcagaggatcatcatcagcataatgcgca ggggtggagggttcggagct 58

<210> 68  
<211> 50  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:11

<400> 68  
ccgaacctccaccctgcgca ttatgctgtatgatgcctctgcattatc 50

<210> 69  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:12

<400> 69  
gatccgttac ttttcatacggtggatcatgcgcgcaga tggtgagggttcggagct 58

<210> 70  
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<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:12

<400> 70  
ccgaacctccaccatcttgcggcgatgtatgcgcgtatg aagagtaacg 50

<210> 71

<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:13

<400> 71  
gatcctctgt ttctgtgggt atgaagccga gtcctaggcc tggtgagggt tcggagct 58

<210> 72  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:13

<400> 72  
ccgaacctcc accaggccta ggactcggt tcataccac agaaacagag 50

<210> 73  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:14

<400> 73  
gatccccatct tcagtctatg aagcctcgta ctcatgtgtt gggtgagggt tcggagct 58

<210> 74  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:14

<400> 74  
ccgaacctcc acccaacaca tgagtagcgag gcttcataga ctgaagatgg 50

<210> 75  
<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:15

<400> 75  
gatccattcc taatgctgag actttgcgtc agcctgcgcg tggtgagggt tcggagct 58

<210> 76  
<211> 50  
<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:15

<400> 76

ccgaacctcc accacgcgca ggctgacgca aagtctcagc attaggaatg 50  
<210> 77  
<211> 58  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Coding chain for peptide of SEQ ID:16  
  
<400> 77  
gatccgttcg cgtcatcagt tcgtggcatc cgcatgatct tggtgagggt tcggagct 58  
  
<210> 78  
<211> 50  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Complimentary chain for ssDNA of SEQ ID:16  
  
<400> 78  
ccgaacctcc accaagatca tgcgatgcc acgaactgat gacgcgaacg 50  
  
<210> 79  
<211> 58  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Coding chain for peptide of SEQ ID:17  
  
<400> 79  
gatccacggt gccgatttat aatacgggaa ttttgaggac gggtgagggt tcggagct 58  
  
<210> 80  
<211> 50  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Complimentary chain for ssDNA of SEQ ID:17  
  
<400> 80  
ccgaacctcc acccgccctc aaaatccccg tattataat cggcaccgtg 50  
  
<210> 81  
<211> 58  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Coding chain for peptide of SEQ ID:18  
  
<400> 81  
gatcctatac tatgcatcat gggtcgacgt ttatacggcg gggtgagggt tcggagct 58  
  
<210> 82  
<211> 50  
<212> DNA  
<213> Artificial Sequence  
  
<220>

<223> Complimentary chain for ssDNA of SEQ ID:18

<400> 82  
ccgaacctcc accccgcccgt ataaacgtcg acccatgtatcatagtatag 50

<210> 83  
<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:19

<400> 83  
gatcctcgat gatgcattgtt aatattcgtc tcgggattct tgggtggagggt tcggagct 58

<210> 84  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:19

<400> 84  
ccgaacctcc accaagaatc ccgagacgaa tattcacatg catcatcgag 50

<210> 85  
<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:20

<400> 85  
gatcccgccgat gatgcattatcataaagagtc tgtatcgccg ggggtggagggt tcggagct 58

<210> 86  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:20

<400> 86  
ccgaacctcc acccgccccga tacagactct tcataatgtatc catcgccg 50

<210> 87  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:21

<400> 87  
gatccatgtatcataatgcgcgatcatcatcagc atatgcgcgatc ggggtggagggt tcggagct 58

<210> 88  
<211> 50  
<212> DNA

<213> Artificial Sequence

<220>

<223> Complimentary chain for ssDNA of SEQ ID:21

<400> 88

ccgaacctcc acccctgcgc atatgctgat gatgatccct ctgcatcatg 50

<210> 89

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Coding chain for peptide of SEQ ID:22

<400> 89

gatccatgaa gactcatcat ggtaataatg cggtgtttct gggtgagggt tcggagct 58

<210> 90

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Complimentary chain for ssDNA of SEQ ID:22

<400> 90

ccgaacctcc acccagaaac accgcattat taccatgatg agtcttcatg 50

<210> 91

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Coding chain for peptide of SEQ ID:23

<400> 91

gatcccttggaa gcccgttcct catactcctc ggatgtatgc gggtgagggt tcggagct 58

<210> 92

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Complimentary chain for ssDNA of SEQ ID:23

<400> 92

ccgaacctcc acccgatac atccgaggag tatgaggaag cggctccaag 50

<210> 93

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Coding chain for peptide of SEQ ID:24

<400> 93

gatcccagct gtatgagcct gattctgggc cgtggctcc gggtgagggt tcggagct 58

<210> 94  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:24

<400> 94  
ccgaacctcc acccggagcc cacggccca agtacaggctc atacaggtgg 50

<210> 95  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:25

<400> 95  
gatcctggat gactaaagatg cttactacgc atactaggta tggtgagggt tcggagct 58

<210> 96  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:25

<400> 96  
ccgaacctcc accatacccta gtatgcgtag taggcattt agtcattccag 50

<210> 97  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:26

<400> 97  
gatcccatca tcctatgtat tctatgacta gggcggtgcc tggtgagggt tcggagct 58

<210> 98  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:26

<400> 98  
ccgaacctcc accaggcaac gcccttagtca tagaatacat aggatgtgg 50

<210> 99  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:27

<400> 99  
gatccggtag tgctcattct cggaaatgatg ctgcgttgtt gggtgagggt tcggagct 58

<210> 100  
<211> 50  
<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:27

<400> 100  
ccgaacctcc acccacagga gcagcatcat tccgagaatg agcaactaccg 50

<210> 101  
<211> 58  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:28

<400> 101  
gatcccattc gccttgatg cagtatcata tgtcggtac gggtgagggt tcggagct 58

<210> 102  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:28

<400> 102  
ccgaacctcc acccgtaccc gacatatgat actgcatcaa aggcaatgg 50

<210> 103  
<211> 58  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:29

<400> 103  
gatcctatgc gcatatgacg atgccgttc ggttttgcg gggtgagggt tcggagct 58

<210> 104  
<211> 50  
<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:29

<400> 104  
ccgaacctcc acccggcaaa aaccgagacg gcatcgatc atgcgcata 50

<210> 105  
<211> 52  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:30

<400> 105  
gatccgcttg tccgcctacg cagtctcggt attgcggtgg aggttcggag ct 52

<210> 106  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:30

<400> 106  
ccgaacctcc accgcaatac cgagactgcg taggcggaca agcg 44

<210> 107  
<211> 52  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:31

<400> 107  
gatccgcttg taatggcatg ttggcatttc agtgcggtgg aggttcggag ct 52

<210> 108  
<211> 44  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:31

<400> 108  
ccgaacctcc accgcactga aaggccaaca tgccattaca agcg 44

<210> 109  
<211> 52  
<212> DNA  
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<220>  
<223> Coding chain for peptide of SEQ ID:32

<400> 109  
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<210> 110  
<211> 44  
<212> DNA  
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<220>  
<223> Complimentary chain for ssDNA of SEQ ID:32

<400> 110  
ccgaacctcc accgcaatgc ttgcccggct tcggcgtaa agcg 44

<210> 111  
<211> 972

<212> DNA  
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<220>  
<223> HPR coding artificial sense-sequence

<400> 111  
gtttatgcca accaaacccc accaagcaag gcgaggggtg gaggttcgca acttaccct 60  
accttctacg acaattcatg tcctaattgc tctaacatcg tacgggatac tattgtcaat 120  
gagcttaaat cagaccctcg tattgcccg agcatccctc gtcttcactt ccacgactgc 180  
tttgttaatg gttgtgacgc atcgatcttg tttagacaaca caacatcatt tcgaacagag 240  
aaagatgcgt ttggaaacgc aaactcggca agaggattc cagtgttga tagaatgaaa 300  
gccgcgggtgg agagtgcgt cccaagaacc gttcatgca cagatttgc caccattgca 360  
gctcaacaat ctgtcaactt ggccggaggt ccttcttgcgagttccctt gggcagaaga 420  
gatagcttac aagcatttctt ggtatcttgcgat aatgcggaaat ttccagctcc attcttcaca 480  
cttccacaac tttagaaat gttggccctca accgttccctc tgatctcg 540  
gcactgtccg gggccacac atttgtaaa aatcagtgca ggtttttttt ggacagatgg 600  
tacaacttca gcaacacccgg ttaccccgat cctactctca acactactta tctccaaact 660  
cttcgtggac tatgtccctt caatggtaat ctaagcgctt tggatcttgcgat 720  
acgccaacga ttttgacaa caaatactat gtgaatctcg aagagaaaa aggacttac 780  
caaagcggacc aagagtgtt ctctagcccc aatgcggactg acacaatccc ttgggtgaga 840  
tcatttgcttca atagcacaca aacatttccatc aatgcatttg tggaggcgat ggataggatg 900  
ggaaacatttca caccttcttac aggaactcaa ggacagatca ggttgaatttgggggttg 960  
aactccaaact ct 972

<210> 112  
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<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 112  
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accttctacg acaattcatg tcctaattgc tctaacatcg tacgggatac tattgtcaat 120  
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<220>  
<223> Primer for PCR multiplication

<400> 113

gtttatgcca accaaacccc accaagcaag 30  
<210> 114  
<211> 120  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Primer for PCR multiplication  
  
<400> 114  
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gaaggatgt cgccgcata cgagggtctg atcttagetc attgacaata gatatccgta 120  
  
<210> 115  
<211> 30  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Primer for PCR multiplication  
  
<400> 115  
tgttgtctaa caagatcgat gcgtcacaac 30  
  
<210> 116  
<211> 120  
<212> DNA  
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<220>  
<223> Primer for PCR multiplication  
  
<400> 116  
atcgatcttg ttagacaaca caacatcatt tcgaacagag aaagatgcgt ttggaaacgc 60  
aaactcggca agaggattc cagtgttga tagaataaaa gccgcggtgg agagtgcatt 120  
  
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<400> 117  
atcgatcttg ttagacaaca caacatcatt 30  
  
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<400> 118  
tcttcgtccc aaaggaactc tccaagaagg acctccggcc aaagtgcacag attgtgagc 60  
tgcaatggtg agcaaattctg cgcatgaaac gggttcttggg catgcactct ccaccgcggc 120

<210> 119  
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<220>  
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<210> 120  
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<220>  
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ttccagctcc attttcaca cttccacaac ttaaagacag cttagaaat gttggcctca 120

<210> 121  
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<220>  
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<400> 121  
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<210> 122  
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<400> 122  
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gtgtggcccc cggacagtgc aacgagatca gaagaacggt tgaggccaac atttctaaag 120

<210> 123  
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<220>  
<223> Primer for PCR multiplication

<400> 123  
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<210> 124  
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<220>  
<223> Primer for PCR multiplication

<400> 124  
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cttcgtggac tatgtccctt caatggtaat ctaagcgctt tggtggattt tgatctacgt 120

<210> 125  
<211> 30  
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<220>  
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<400> 125  
tacaacttca gcaacaccgg tttacccgat 30

<210> 126  
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<220>  
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cagtggcatt ggggctagag aacaacttctt ggtcgccttg gataaggcctt tttcccttt 60  
cgagattcac atagtatttg ttgtcaaaaa tcgttggcgat acgttagatca aaatccacca 120

<210> 127  
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<220>  
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<210> 128  
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<220>  
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aacattcttc aatgcatttg tggaggcgat ggataggatg gaaacattt cacctttac 120

<210> 129  
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<220>

<223> Primer for PCR multiplication

<400> 129  
ctctagcccc aatgccactg acacaatccc 30

<210> 130  
<211> 72  
<212> DNA  
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<220>  
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<400> 130  
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tgttatgttt cc 72

<210> 131  
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<220>  
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<400> 131  
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<210> 132 . . .  
<211> 58  
<212> DNA  
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<220>  
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<400> 132  
agtccgatcc gtttatgcga atcagactcc gccttctaag ggcgggggtg gaggttcg 58

<210> 133  
<211> 34  
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<210> 134  
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<213> Artificial Sequence

<220>  
<223> GroEL coding artificial sense-sequence

<400> 134  
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gacgtaaaat tcggtaacga cgctcggtgtg aaaatgctgc gcggcgtaaa cgtactggca 120



<400> 135  
gtttatgcga atcagactcc gccttctaag gcgcgggtg gagggtcgat ggcagctaaa 60  
gacgtaaaat tcgtaacga cgctcggtg aaaatgtgc gcggcgtaaa cgtactggca 120

<210> 136  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 136  
gtttatgcga atcagactcc gccttctaag 30

<210> 137  
<211> 120  
<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 137  
gagcaacgga aacaccatct ttggtgatgg tcgggtgcacc gaaagattna tccagaacta 60  
cggtacggcc tttggaccc agggtaactt tcactgcatt tgccagtacg ttacgccc 120

<210> 138  
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<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 138  
gagcaacgga aacaccatct ttggtgatgg 30

<210> 139  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 139  
agatggtgtt ccgttgctc gtgaaatcga actggaagac aagttcgaaa atatgggtgc 60  
gcagatggtg aaagaagtgc cctctaaagc aaacgacgct gcaggcgacg gtaccaccac 120

<210> 140  
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<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 140  
agatggtgtt ccgttgctc gtgaaatcga 30

<210> 141  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 141  
aaccgcttg tcgataccac gtttcaggc catcggttc atgcccgcag caacagctt 60  
cagacccatca gtgtatgtat cctgagccag tacgggttca gtgggtgtac cgtcgcctgc 120

<210> 142  
<211> 30  
<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 142  
aaccgcttg tcgataccac gtttcaggc 30

<210> 143  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 143  
gtggtatcga caaagcggtt accgctgcag ttgaagaact gaaagcgctg tccgtaccat 60  
gctctgactc taaagcgatt gtcagggtt gtaccatctc cgctaactcc gacgaaaccg 120

<210> 144  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 144  
gtggtatcga caaagcggtt accgctgcag 30

<210> 145  
<211> 120  
<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 145  
tcaaccacgt ccagttcgct ctgeagacccg gtaccgttca acgggtgat aacgccttct 60  
ttaccgactt tgtccatcgc ttcagcgatc agttaccta cggttcgct ggagtttagcg 120

<210> 146

<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 146  
tcaaccacgt ccagttcgctc ctgcagaccg 30

<210> 147  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 147  
gacgaactgg acgtgggtga aggtatgcag ttcgaccgtg gctacctgtc tccttacttc 60  
atcaacaagg cgaaactgg cgcagttagaa ctggaaagcc cgttcatcct gctggctgac 120

<210> 148  
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<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 148  
gacgaactgg acgtgggtga aggtatgcag 30

<210> 149  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 149  
cttcgccttc tacatcttca gcgatgataa gcagcggtt gcctgcttg gcaacagctt 60  
ccagaaccgg cagcattcg cggatgttgg agattttctt gtcagccagc aggatgaacg 120

<210> 150  
<211> 30  
<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 150  
cttcgccttc tacatcttca gcgatgataa 30

<210> 151  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 151  
tgaagatgt a aaggcgaag cgctggcaac tgctttgtt aacaccattc gtggcatcg 60  
gaaagtgcgt gcggtaaag caccggctt cgccgatcg t gtaaagcta tgctgcagg 120

<210> 152  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 152  
tgaagatgt a aaggcgaag cgctggcaac 30

<210> 153  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 153  
cacaacacgt ttagcctgac ccaggtcttc cagggttgct tttccagct ccataccat 60  
ctttcagag atcacggta c gccagtcag ggttgcata tcctgcagca tagtttacg 120

<210> 154  
<211> 30  
<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 154  
cacaacacgt ttagcctgac ccaggtcttc 30

<210> 155  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 155  
gtcaggctaa acgttttg atcaacaag acaccaccat tatcatcgat ggctgggtg 60  
agaagctgc aatccaggc cgtttgctc agatccgtca gcagattgaa gaagcaactt 120

<210> 156  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 156  
gtcaggctaa acgttttg atcaacaag 30

<210> 157  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 157  
tcttcattt caacttcggt agcagcaccc actttgataa ctgcaacgcc gcctgcagg 60  
ttcgctacgc gttcctgcag ttttcacgg tcgtatcgag aagttgcgttcaatctgc 120

<210> 158  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 158  
tcttcattt caacttcggt agcagcaccc 30

<210> 159  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 159  
accgaagtggaaatggaaaga gaaaaaaagca cgcgttgaag atgccttgca cgcgacccgt 60  
gctgcggtag aagaaggcgt gggtgctgggt ggtgggttg cgctgtatccg cgtacgtct 120

<210> 160  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 160  
accgaagtggaaatggaaaga gaaaaaaagca 30

<210> 161  
<211> 120  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 161  
agttcaatac gatctgacgc agcggagctt ccattgcacg cagtcaact ttgataccca 60

cgttctggtc ttctttctga ccacgcaggc cagccagttt agacgcacg cggtatcg 120

<210> 162

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 162

agttcaatac gatctgacgc agcggagctt 30

<210> 163

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 163

gcgtcagatc gtattgaact gcggcgaaga accgtctgtt gttgctaaca ccgttaaagg 60

cggcgacggc aactacggtt acaacgcaggc aaccgaagaa tacggcaaca tgatcgacat 120

<210> 164

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 164

gcgtcagatc gtattgaact gcggcgaaga 30

<210> 165

<211> 120

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 165

caggtcggtt accatgcatt cgggttgtat catcaggcca gccacagaag ctgcgtactg 60

cagagcagaa cgagttactt tgggtgggtc caggataccc atgtcgatca tggccgtt 120

<210> 166

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer for PCR multiplication

<400> 166

caggtcggtt accatgcatt cgggttgtat 30

<210> 167

<211> 95

<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 167  
ttacatcatg ccgcccatgc cacccatgcc gcccataccg ccagcagcgc ctaagtgc 60  
tgcatcggtt ttcggcagggt cggttaaccat gcatt 95

<210> 168  
<211> 30  
<212> DNA  
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<220>  
<223> Primer for PCR multiplication

<400> 168  
aggcctcgag ttacatcatg ccgcccatgc 30

<210> 169  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Primer for PCR multiplication

<400> 169  
ttacatcatg ccgcccatgc cacccatgcc gcc 33

<210> 170  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> anodisk membrane-binding peptide

<400> 170  
Tyr Ala Gln Thr Pro Pro Ser Arg  
1 5

<210> 171  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> anodisk membrane-binding peptide

<400> 171  
Leu Tyr Ala Gln Gln Thr Pro Pro Ser Arg Ser Arg  
1 5 10

<210> 172  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>

<223> anodisk membrane-binding peptide

<400> 172

Val Tyr Ala Asn Gln Thr Pro Pro Ser Arg Ala Arg Ala Lys Ala Arg  
1 5 10 15

<210> 173

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> anodisk membrane-binding peptide

<400> 173

Val Tyr Ala Asn Gln Thr Pro Pro Ser Lys Ala Arg Tyr Ala Gln  
1 5 10 15  
Thr Pro Pro Ser Arg  
20

<210> 174

<211> 46

<212> DNA

<213> Artificial Sequence

<220>

<223> Coding chain for peptide of SEQ ID:170

<400> 174

gatcctatgc gcagactccg ccttctcggt gtggagggttc ggagct 46

<210> 175

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Complimentary chain for ssDNA of SEQ ID:170

<400> 175

ccgaacctcc accccgagaa ggccggagtct ggcgcata 38

<210> 176

<211> 58

<212> DNA

<213> Artificial Sequence

<220>

<223> Coding chain for peptide of SEQ ID:171

<400> 176

gatccctcta tgcgcaacag actccgcctt ctccgtctcg gggtgagggt tcggagct 58

<210> 177

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Complimentary chain for ssDNA of SEQ ID:171

<400> 177

ccgaacctcc accccgagac cgagaaggcg gagtctgttg cgcatataagag 50

<210> 178  
<211> 70  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:1

<400> 178  
gatccgttta tgcgaatcag actccgcctt ctcgcgcacg cgcaaaggcg cggggtggag 60  
gttcggagct 70

<210> 179  
<211> 62  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:1

<400> 179  
ccgaacctcc accccgccc ttgcgcgtg cgcgagaagg cggagtctga ttgcataaa 60  
cg 62

<210> 180  
<211> 82  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Coding chain for peptide of SEQ ID:1

<400> 180  
gatccgttta tgcgaatcag actccgcctt ctaaggcgcg gtatgcgcag actccgcctt 60  
ctcggggtgagttcggag ct 82

<210> 181  
<211> 74  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Complimentary chain for ssDNA of SEQ ID:1

<400> 181  
ccgaacctcc accccgagaa ggccggagtct gcgcataccg cgccttagaa ggccggagtct 60  
gattcgcata aacg 74